

What is claimed is:

1. A method for forming an image by employing a print head in which a plurality of recording elements are arranged in an array line, comprising the steps of:

 recording a correction image onto a photosensitive material by means of said print head;

 acquiring readout information read from said correction image by means of an image-reading device;

 finding correction amounts of recording characteristics, each of which corresponds to each of said plurality of recording elements, from said readout information acquired in said acquiring step; and

 forming said image by employing said print head in which said recording characteristics of said plurality of recording elements are compensated for, according to said correction amounts found in said finding step;

 wherein said correction image includes such an image area in which at least two different color dyes are mixed with each other.

2. The method of claim 1,

wherein said print head is capable of emitting plural lights or includes plural element heads for emitting plural lights; and

wherein said correction image includes such an image that is recorded on said photosensitive material by irradiating said plural lights onto a same place of said photosensitive material in an overlapped state.

3. The method of claim 1,

wherein said correction image includes said image area in which at least two of a yellow color dye, a magenta color dye and a cyan color dye are mixed with each other.

4. The method of claim 1,

wherein said correction image includes said image area in which Red-density R_d , Green-density G_d and Blue-density B_d fulfill the following relationship.

$$0.3 \leq R_d \leq 1.5, \quad 0.2 \leq G_d \leq 1.5 \quad \text{and} \quad 0.15 \leq B_d \leq 1.5$$

5. The method of claim 1,

wherein said correction amounts are found by applying a color conversion processing to said readout information

acquired by reading said correction image in said acquiring step.

6. The method of claim 5,

wherein, when said readout information, acquired in said acquiring step, represent integrated densities, analyzed densities are derived from said integrated densities in said color conversion processing.

7. The method of claim 5,

wherein a linear-converting equation is employed for said color conversion processing.

8. The method of claim 1,

wherein said correction image is recorded onto said photosensitive material after a setup operation for color balance is completed.

9. The method of claim 1,

wherein said print head is capable of emitting plural lights or includes plural element heads for emitting plural lights; and

wherein an image area, which is included in said correction image and from which said readout information are acquired, is constituted by plural images recorded by irradiating said plural lights onto said photosensitive material in a state that said plural images overlap with each other.

10. The method of claim 1,

wherein said photosensitive material, on which said correction image is recorded, is fixed onto said image-reading device by means of a pushing member.

11. The method of claim 1,

wherein a nominal number of recorded lines to be recorded onto said correction image is in a range of 50-1000.

12. The method of claim 11,

wherein an actual number of recorded lines utilized for acquiring said readout information is more than 10% of said nominal number of recorded lines.

13. The method of claim 1,

wherein said photosensitive material is a silver-halide photosensitive material.

14. The method of claim 1,

wherein said photosensitive material has a reflective substrate layer.

15. The method of claim 1,

wherein density of said correction image is set at a point on a liner region of characteristic curve of said photosensitive material.

16. The method of claim 1,

wherein said correction image includes position-determining markers, each corresponding to each position of said plurality of recording elements, so as to recognize each of said plurality of recording elements.

17. An apparatus for forming an image, comprising:

a print head in which a plurality of recording elements are arranged in an array line, said print head being utilized for recording a correction image onto a photosensitive material;

an image-reading device to acquire readout information by reading said correction image;

a correction amount finding section to find correction amounts of recording characteristics, each of which corresponds to each of said plurality of recording elements, from said readout information acquired by said image-reading device;

an image forming section to form said image by employing said print head in which said recording characteristics of said plurality of recording elements are compensated for, according to said correction amounts found by said correction amount finding section; and

a controlling section to control said print head so as to records said correction image onto said photosensitive material;

wherein said correction image includes such an image area in which at least two different color dyes are mixed with each other.

18. The apparatus of claim 17,

wherein said print head is capable of emitting plural lights or includes plural element heads for emitting plural lights; and

wherein said correction image includes such an image that is recorded on said photosensitive material by irradiating said plural lights onto a same place of said photosensitive material in an overlapped state.

19. The apparatus of claim 17,

wherein said correction image includes said image area in which at least two of a yellow color dye, a magenta color dye and a cyan color dye are mixed with each other.

20. The apparatus of claim 17,

wherein said correction image includes said image area in which Red-density R_d , Green-density G_d and Blue-density B_d fulfill the following relationship.

$$0.3 \leq R_d \leq 1.5, 0.2 \leq G_d \leq 1.5 \text{ and } 0.15 \leq B_d \leq 1.5$$

21. A method for forming an image by employing a print head in which a plurality of recording elements are arranged in a first array line, comprising the steps of:

recording a correction image onto a photosensitive material by means of said print head;

acquiring readout information read from said correction image by an image-receiving head in which a plurality of

photo-receiving elements are arranged in a second array line and which is equipped in an image-reading device;

finding correction amounts of recording characteristics, each of which corresponds to each of said plurality of recording elements, from said readout information acquired in said acquiring step; and

forming said image by employing said print head in which said recording characteristics of said plurality of recording elements are compensated for, according to said correction amounts found in said finding step;

wherein a direction of said first array line coincides with that of said second array line.

22. The method of claim 21,

wherein a calibrating operation is applied to each of said plurality of photo-receiving elements.

23. The method of claim 22,

wherein a part of said correction image is employed for said calibrating operation.

24. The method of claim 23,

wherein density of a calibration image employed for said calibrating operation is set at a point on a non-linear region of characteristic curve of said photosensitive material.

25. The method of claim 23,

wherein a non-exposed part of said correction image is employed for said calibrating operation.

26. A method for forming an image by employing a print head in which a plurality of recording elements are arranged in an array line, comprising the steps of:

recording a correction image onto a photosensitive material by means of said print head;

acquiring readout information read from said correction image by an image-receiving head in which a plurality of photo-receiving elements are arranged in an array line and which is equipped in an image-reading device;

finding correction amounts of recording characteristics, each of which corresponds to each of said plurality of recording elements, from said readout information acquired in said acquiring step; and

forming said image by employing said print head in which said recording characteristics of said plurality of recording elements are compensated for, according to said correction amounts found in said finding step;

wherein said readout information are specified corresponding to each of said plurality of recording elements by applying a rotation processing to said readout information.

27. The method of claim 26,

wherein said correction image includes an inclination-determining marker; and

wherein said inclination-determining marker is employed for determining an inclination of said correction image so as to apply said rotation processing to said readout information.

28. A method for forming an image by employing a print head in which a plurality of recording elements are arranged in an array line, comprising the steps of:

recording a correction image with a plurality of recoded lines recoded by said print head onto a

photosensitive material moving relative to said plurality of recording elements;

acquiring a plurality of readout information sets, each corresponding to each of said plurality of recording elements, read from said correction image by means of an image-reading device;

finding correction amounts of recording characteristics, each of which corresponds to each of said plurality of recording elements, from said plurality of readout information sets; and

forming said image by employing said print head in which said recording characteristics of said plurality of recording elements are compensated for, according to said correction amounts found in said finding step;

wherein a selection processing is applied to said plurality of readout information sets, so that said correction amounts of said recording characteristics are found, based on selected readout information sets.

29. The method of claim 28,

wherein said selection processing is conducted, based on a scale of said plurality of readout information sets.

30. The method of claim 29,

wherein said selection processing employs less than 95% of said plurality of readout information sets.

31. The method of claim 28,

wherein said selection processing repeats to extract a maximum value and/or a minimum value of said plurality of readout information sets until 3σ reaches to a value equal to or smaller than 0.1μ , where " σ " and " μ " are defined as a standard deviation and an average value of said selected readout information sets, respectively.

32. The method of claim 28,

wherein said photosensitive material, on which said correction image is recorded, is fixed onto said image-reading device by means of a pushing member.

33. The method of claim 28,

wherein a nominal number of said recorded lines to be recorded onto said correction image is in a range of 50-1000.

34. The method of claim 33,

wherein an actual number of said recorded lines utilized for acquiring said readout information is more than 10% of said nominal number of said recorded lines.

35. The method of claim 28,

wherein said photosensitive material is a silver-halide photosensitive material.

36. The method of claim 28,

wherein said photosensitive material has a reflective substrate layer.

37. An apparatus for forming an image, comprising:

a print head in which a plurality of recording elements are arranged in a first array line, said print head being utilized for recording a correction image onto a photosensitive material;

an image-reading device provided with an image-receiving head in which a plurality of photo-receiving elements are arranged in a second array line, said image-receiving head being utilized for reading said correction image printed by said print head, so as to acquire readout information;

a correction amount finding section to find correction amounts of recording characteristics, each of which corresponds to each of said plurality of recording elements, from said readout information acquired by said image-reading device; and

wherein a direction of said first array line coincides with that of said second array line.

38. An apparatus for forming an image, comprising:

a print head in which a plurality of recording elements are arranged in an array line, said print head being utilized for recording a correction image onto a photosensitive material;

an image-reading device provided with an image-receiving head in which a plurality of photo-receiving elements are arranged in an array line, said image-receiving head being utilized for reading said correction image printed by said print head, so as to acquire readout information;

a correction amount finding section to find correction amounts of recording characteristics, each of which corresponds to each of said plurality of recording elements, from said readout information acquired by said image-reading device; and

wherein said correction amount finding section applies a rotation processing to said readout information so as to specify said readout information corresponding to each of said plurality of recording elements.

39. An apparatus for forming an image, comprising:

a print head in which a plurality of recording elements are arranged in an array line, said print head being utilized for recording a correction image constituted with a plurality of recoded lines onto a photosensitive material;

an image-reading device to acquire a plurality of readout information sets, each corresponding to each of said plurality of recording elements, by reading said correction image; and

a correction amount finding section to find correction amounts of recording characteristics, each corresponding to each of said plurality of recording elements, from said plurality of readout information sets;

wherein said correction amount finding section applies a selection processing to said plurality of readout information sets, so that said correction amounts of said recording characteristics are found, based on selected readout information sets.

40. An apparatus for forming an image, comprising:

a print head in which a plurality of recording elements are arranged in an array line, each of said plurality of recording elements being individually operated in response to each of a plurality of light-amount correction coefficients, and said print head being utilized for recording a correction image onto a photosensitive material;

an image-reading device to acquire readout information by reading said correction image recorded on said photosensitive material by said print head; and

a correction-processing section to find correction amounts of recording characteristics, each corresponding to each of said plurality of recording elements, from said readout information by controlling said print head and said image-reading device, in order to revise each of said plurality of light-amount correction coefficients according to each of said correction amounts of said recording characteristics;

wherein said image is formed by operating said plurality of recording elements included in said print head, based on said plurality of light-amount correction

coefficients revised by said correction-processing section;
and

wherein exposure-amount information are acquired, based on said readout information acquired from said correction image.

41. The apparatus of claim 40,

wherein a statistic in regard to said readout information is calculated, so as to acquire said exposure-amount information by employing said statistic.

42. The apparatus of claim 40,

wherein said light-amount correction coefficients or said exposure-amount information is employed for recording said image onto said photosensitive material, independently relative to each other.

43. The apparatus of claim 40,

wherein a value, indicated by said readout information acquired from said correction image, is set at a point on a liner region of characteristic curve of said photosensitive material.

44. The apparatus of claim 40,

wherein a plurality of correction images are recorded onto a plurality of recording regions whose locations are different relative to each other, and then, a plurality of readout information sets are acquired from said plurality of correction images, so that said exposure-amount information are acquired, based on each of said plurality of readout information sets.

45. The apparatus of claim 44,

wherein densities of said plurality of correction images are different relative to each other.

46. The apparatus of claim 40,

wherein said image-reading device is provided with a pushing member for fixing said photosensitive material, on which said correction image is recorded, onto said image-reading device.

47. The apparatus of claim 40,

wherein said photosensitive material is a silver-halide photosensitive material.

48. The apparatus of claim 40,

wherein said photosensitive material has a reflective substrate layer.

49. The apparatus of claim 40,

wherein a nominal number of recorded lines to be recorded onto said correction image is in a range of 50-1000.

50. The apparatus of claim 49,

wherein an actual number of recorded lines utilized for acquiring said readout information is more than 10% of said nominal number of recorded lines.

51. The apparatus of claim 49,

wherein said light-amount correction coefficients is adjusted according to said correction amounts of said recording characteristics, while an output-value conversion LUT is adjusted according to said exposure-amount information, where "LUT" stands for "Look Up Table".

52. A method for forming an image by employing a print head in which a plurality of recording elements are arranged in an array line, each of said plurality of recording elements

being individually operated in response to each of a plurality of light-amount correction coefficients, said method comprising the steps of:

 recording a correction image onto a photosensitive material by means of said print head;

 acquiring readout information read from said correction image by means of an image-reading device;

 finding correction amounts of recording characteristics, each of which corresponds to each of said plurality of recording elements, from said readout information acquired in said acquiring step;

 revising each of said plurality of light-amount correction coefficients according to each of said correction amounts found in said finding step; and

 forming said image by operating said plurality of recording elements included in said print head, based on said plurality of light-amount correction coefficients revised in said revising step;

 wherein exposure-amount information are acquired, based on said readout information acquired from said correction image.